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Friendship Paradox Redux: Your Friends Are More Interesting Than You

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Feld's friendship paradox states that "your friends have more friends than you, on average." This paradox arises because extremely popular people, despite being rare, are overrepresented when averaging over friends. Using a sample of the Twitter firehose, we confirm that the friendship paradox holds for >98% of Twitter users. Because of the directed nature of the follower graph on Twitter, we are further able to confirm more detailed forms of the friendship paradox: everyone you follow or who follows you has more friends and followers than you. This is likely caused by a correlation we demonstrate between Twitter activity, number of friends, and number of followers. In addition, we discover two new paradoxes: the virality paradox that states "your friends receive more viral content than you, on average," and the activity paradox, which states "your friends are more active than you, on average." The latter paradox is important in regulating online communication. It may result in users having difficulty maintaining optimal incoming information rates, because following additional users causes the volume of incoming tweets to increase super-linearly. While users may compensate for increased information flow by increasing their own activity, users become information overloaded when they receive more information than they are able or willing to process. We compare the average size of cascades

that are sent and received by overloaded and underloaded users. And we show that overloaded users post and receive larger cascades and they are poor detector of small cascades.

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